Investigation of ....

with published X-ray data (Ref. 10 - R.W. Fountain, J.F. Libsch, Trans. AIME, 1953, 197, 349).
There are 6 figures, 1 table and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The two English-language references mentioned are: Ref. 3 - D.L. Martin and A.H. Geisler - Trans. ASM, 1952, 44, 461; Ref. 10 (quoted in text).

ASSOCIATIONS: Institut pretsizionnykh splavov TsNIIChM
(Institute of Precision Alloys of TsNIIChM)
Moskovskiy institut stali im. I.V. Stalina
(Moscow Steel Institute im. I.V. Stalin)

SUBMITTED: October 24, 1960

Card 4/4

S/126/61/012/004/006/021
E111/E335

AUTHORS: Gorbunov, V.I. and Livshits, B.G.

TITLE: Investigation of the structure of irreversible alloys of the system Fe-Co-V. II. Alloys with a low vanadium content

PERIODICAL: Fizika metallov i metallovedeniye, v. 12, no. 4, 1961, 534 - 540

TEXT: Following their earlier work (Ref. 1 - FMM, 1961, 11, no. 6) on high-vanadium iron-cobalt alloys with 52% cobalt, the authors now describe a later investigation. This was on the structure of iron alloys with 2.5 - 4.5% vanadium and 52% cobalt formed by slow cooling from the single-phase gamma region, and on the structure of alloys with under 2% vanadium after quenching and isothermal tempering. Various cooling rates were used, from 1 000 °C: water-quenching, cooling with the furnace and still more slowly at 20 °C/hour. The latter method was also adopted for cooling alloys to 800 - 500 °C at 50 °C intervals with subsequent water-quenching. Specimens were quenched either directly after reaching the required temperature

Investigation of ....

or after a 24-hour isothermal holding. Sometimes the structure was studied after quenching and tempering. The methods of investigation were the same as in the work described previously (Ref. 1). The authors draw the following conclusions for the 2.5 - 4.5% vanadium alloys: decomposition of supercooled gamma-phase at and below gamma/alpha boundary temperatures on the metastable phase diagram is complicated by alpha-phase decomposition. The process occurs as follows: the gamma-phase, undecomposed at high temperatures, is converted into alpha-phase of the same composition on cooling; this change is martensitic in alloys with over 4.5% vanadium but in those with less vanadium, in which the transformation temperature is high, it is diffusional. The alpha-phase produced decomposes on slow cooling or isothermal holding to give an alpha + gamma structure. Thus, two successive phase-transformations occur. Comparison of the microstructure of annealed alloys with that of alloys tempered after quenching indicates that alpha-phase decomposition in tempering and in slow cooling leads, at temperatures below the critical temperature of ordering, to the formation of a highly dispersed mixture of

Card 2/3

Investigation of ....

ordered α'-phase and γ-phase. Only the gamma-to-alpha transformation, without composition change, occurs with increasing cooling rates. Alpha-phase decomposition also fails to occur during slow cooling in alloys with over 4.5% vanadium; this is due to its low formation temperatures. In alloys with under 2% vanadium the gamma-phase formed by decomposition of alpha during isothermal tempering changes into alpha-phase on cooling to room temperature.
There are 4 figures, 1 table and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The English-language reference mentioned is: Ref. 4 - D.Z. Martin, A.H. Geisler - Trans. ASM, 1952, 44, 461.

ASSOCIATIONS: Institut pretsizionnykh splavov TsNIIChM
(Institute of Precision Alloys of TsNIIChM)
Moskovskiy institut stali im. I.V. Stalina
(Moscow Institute of Steel im. I.V. Stalin)

SUBMITTED: October 24, 1960

Card 3/3

C/0026/61/017/007/005/006
F050/F004

AUTHOR: Anan'yev, L. M., Gorbunov, V. I., and Ch'en, ,Shen (7115/3947)

TITLE: Principles and instruments for measuring the equilibrium orbit of electron induction accelerators

PERIODICAL: Wu Li Hsüeh Pao, v. 17, no. 7, 1961, 329-338

TEXT: The size of the silicon steel lamina of electromagnets for accelerators involves some unavoidable errors in the manufacturing process. In installation it cannot be assured that the relative sizes of magnetic collars, magnetic poles, and central washers will be the same as the designed values. This fact will make the radius of the equilibrium orbit differ from the design values by about several centimeters. In addition, owing to the difference of saturation degree of the iron core, the radius of equilibrium orbit will vary accordingly. If no measurement and check is made the actual intensity of gamma ray cannot be obtained. The paper describes the working principles, design of instruments, and some experimental results of three kinds of conventional

Card 1/6

Principles and instruments for ...

measurement instruments. The first is called the method of minimum electrical field intensity. On the central plane of the acceleration gas gap of the electron accelerator surface of z=0, shown in Fig. 1.), variable magnetic flux exists. On the circle with a radius r, the induced electrical field intensity

$$E = \frac{U}{2\pi r}$$

where U-induced electromotive potential (volts), r-radius (cm.), E-induced electrical field intensity (volt/cm). Since the distribution of magnetic field of the electron accelerator has a specific form (shown in Fig. 2), there is a minimum electrical field intensity existing on the radius of equilibrium orbit r_o. A measuring disk with coils at different radii is made to measure the value of U. Since E ~ U, and Ux = f(rx), the radius of equilibrium orbit r_o can be determined when Emin is found. The second is called the method of graphic solution. The method uses the Hz(r) curve measured on the central plane to determine the value of r_o through graphing. Suppose curve Hz(r) is known as in Fig. 8. Half of the average magnetic field intensity on the central planes at dif-

Principles and instruments for ...

ferent radii is shown in the following formula:

$$\frac{1}{2}\bar{H}z(r) = \frac{1}{2}\frac{1}{\pi r^2}\int_0^r 2\pi r Hzdr = \frac{1}{r^2}\int_0^r Hzrdr \qquad (15)$$

From Fig. 9, $\int_0^r Hzrdr$ can be represented by the area S of curve Hzr(r), then,

$$\frac{1}{2}\bar{H}_z = \frac{S}{r^2} \qquad (16)$$

and plot curve $\frac{1}{2}\bar{H}_z(r)$ on Fig. 8. According to the condition 2 : 1, the following relation must exist on the equilibrium orbit:

$$\frac{1}{2}\bar{H}_z(r_o) = H_z(r_o)$$

But on Fig. 8, there are 3 points, A, B, and B, satisfying the condition 2 : 1. Among them, only point A is stable. Then the radius of equilibrium orbit r_o can be determine

Card 3/9

Principle and instruments for ...

by the location of point A. Curve $H_z(r)$ can be measured by a small coil connected to an electron tube a-c millivoltmeter. The voltage measured can be used to represent the relative value of magnetic field intensity. The third is called the method of three coils. The circuit diagram is shown in Fig. 11. r_B is the designed radius of equilibrium orbit, $r_1 = r_B - \Delta r/2$, $r_2 = r_B + \Delta r/2$. The 3 coils are put in the slots of an organic glass disk. When measurement is taken, the disk is put in the acceleration gap. The plane containing the 3 disk is located on the central plane of the magnetic field. Induced potentials exist in the 3 coils by induction of the variable magnetic flux. r_o can be obtained by the following formula:

$$r_o(\omega t) = r_B + \frac{1}{1-n}\left[(1+\frac{R1}{R2})\Delta r - r_B\right] + \frac{U3(\omega t)}{Ho(\omega t)} \cdot K_3 \qquad (34$$

where H_o is the peak value of magnetic field intensity at r_o, K_3 is a constant, n is a logarithm slope (peak value of magnetic field intensity at any radius r, $H = Ho(r_o/r)^n$ Oersted), R_1 is a fixed resistor, R_2 is a variable resistor, take r = 1 cm. During measurement, adjust R_2 to make certain that the reading of $U_3(\omega t)$ on the oscilloscope is

Card 4/9

principle and instruments for ...

zero. When R_2 is adjusted to different values to make the instantaneous value of $U_3(\omega t)$ at zero, its phase φ is also different. Different values of r_o can be obtained with respect to different phases (ωt). In conclusion, the advantages and disadvantages of these three methods are as follows:

Method	Advantage	Disadvantage
Method of minimum electrical field intensity	Convenient in obtaining r_o by graphing	Difficult in making an accurate measuring disk
Method of graphic solution	1. accurate in the result of measurement 2. when adjustment parameters change, the physical idea is clear 3. simple instrument 4. can be used in the model of magneto	time for graphing is too long

Card 5/9

Principle and instruments for ...

Method of 3 coils	1. readily obtains r_o from the result of measurement 2. curve of $r_o \sim$ time change can be obtained	1. expensive instrument 2. when actual r_o differs greatly from the designed value, the error of formula is rather large

There are 14 figures. The English-language reference is: J. A. Rajchman and W. H. Cheny, Jour. Frankl. Inst., 243 (1947), 26.

SUBMITTED: April 26, 1961

Card 6/9

S/776/62/000/025/012/025

AUTHORS: Gorbunov, V.I., Livshits, B.G.

TITLE: On the structure of alloys with $\alpha \rightleftarrows \gamma$ transformation of the systems Fe-Ni and Fe-Co-V.

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov. no. 25. Moscow, 1962. Pretsizionnyye splavy. pp. 177-188.

TEXT: The paper describes an experimental investigation of Fe-Ni alloys with an elevated Fe content and alloys of the system Fe-Co-V containing more than 30% Co, which are commonly referred to as the "irreversible" alloys. During continuous heating and cooling the $\alpha \rightleftarrows \gamma$ transformation occurs with an appreciable T hysteresis which increases with an increase of the alloying-component content. Depending on the heat treatment, the phase state of the irreversible alloy is described by 2 phase diagrams: A metastable phase diagram and an equilibrium phase diagram. Following a brief survey of the state of the art, the paper adduces the results of an investigation of the structure of annealed Fe-Ni and Fe-Co-V alloys in which the $\gamma \rightarrow \alpha$ transformation during continuous cooling occurs at relatively elevated T (appx. above 400°C). The investigation comprised the two-phase binary alloys with a Ni content of from 5 to 10% and two-phase ternary alloys with a V content of from

Card 1/2

2 to 5% and a constant Co content of 52%. The chemical composition of the alloys selected is tabulated. The investigation was performed by means of electron and optical microscopy and by dilatometry and X-ray analysis as described by I. L. Aptekar', V. I. Gorbunov, Fiz. Metall. i metalloved., v.10, no.5, 1960, 710. The metastable phase diagram of the Fe-Ni system and the vertical section of the metastable phase diagram of the system Fe-Co-V with 50% Co are employed to show the changes in structure in the course of a slow cooling from the temperature of the single-phase γ solid solution to room T for alloys of different compositions. A comparison of the slow cooling process investigated here and the fast cooling and isothermal processes reported in the literature shows that the observed changes in structure of the alloys Fe-Ni and Fe-Co-V during slow cooling are the result of the superimposition of processes which proceed with and without changes in composition. The results of the present investigation should serve usefully in the selection of suitable heat-treatment regimes for practical purposes. There are 7 figures and 10 references (3 Russian-language, 3 German, and 4 English-language).

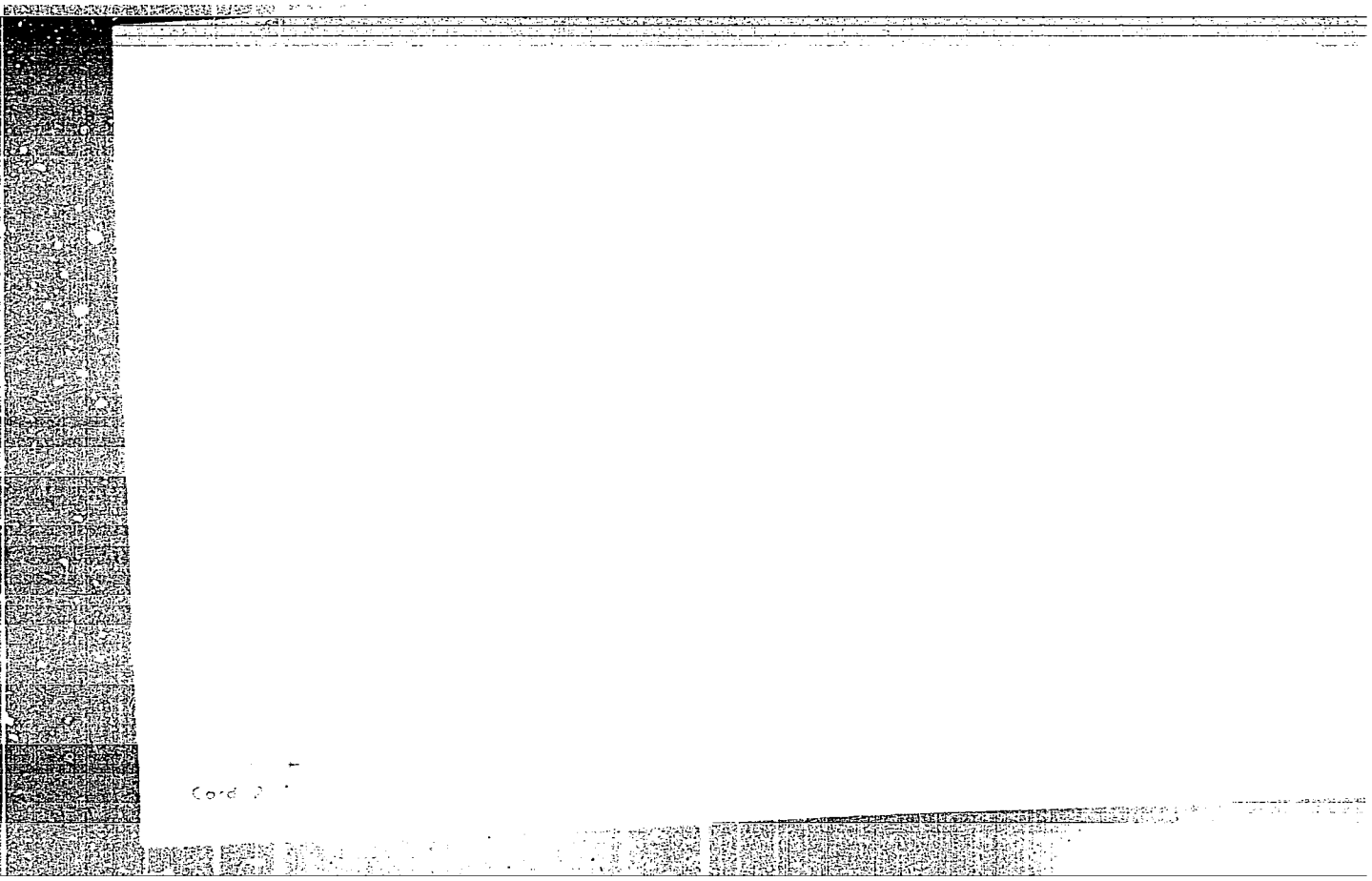
ANAN'YEV, Lev Martem'yanovich, kand. tekhn.nauk; VOROB'YEV, Aleksandr Akimovich, doktor tekhn. nauk; GORBUNOV, Vladimir Ivanovich, kand.tekhn.nauk; KROPCHEV, S.A., red.; RUBINOVA, L.Ye., tekhn.red.

[Betatron and its uses] Betatron i ego primenenie. Tomsk, Tomskoe knizhnoe izd-vo, 1962. 83 p. (MIRA 15:11)

1. Tomskiy politekhnicheskiy institut imeni S.M.Kirova (for Anan'yev, Vorob'yev, Gorbunov).

(Betatron)

TRANSLATION: It is reported that the Tomsk Polytechnic Institute



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000516110020-5"

AUTHOR [illegible]rbunov, V. I.; Kuni[illegible]syn, G. A.; Otrubiyannikov, Yu. A.

[illegible] M., Vyssh. shk., [illegible]

TOPIC TAGS: betatron, impulse betatron, ironless betatron, portable [illegible]

TRANSLATION: The development in the Tomsk Polytechnic Institute of an impulse ironless betatron intended for field work is reported. With an energy [illegible] or less, the betatron is expected to produce a radiation of about 100 [illegible] 1 m from the target. The method of magnetic simulation was used to determine the best configuration of the magnetic fields; focusing characteristics magnetic fields obtained on a model of the betatron magnet were studied on the experimental determination of the magnetic field configuration betatron with an electron-acceleration energy [illegible] Mev was [illegible] characteristics are given, the distinguishing feature [illegible]

Card 1/2

L 57821-65
ACCESSION NR: AR4049415

a large cross-section of the accelerating chamber. The pulling conditions were improved by using a deformed magnetic field at the start of the acceleration cycle. The building of two impulse ironless betatrons for 7 and 10 Mev is considered as a preliminary step in the solution of the problem. [illegible] and arise [illegible] data indicate the feasibility of building [illegible] portable high-intensity betatron.

SUB CODE: NP ENCL: 00

Card 2/2

L 64798-65 EWT(m) DIAAP

ACCESSION NR: [illegible] UR/0411/65/000/011/A033/A033

621.384.6

SOURCE: Ref. zh. Elektronika i yeye primeneniya. Svodnyy tom, Abs. 11A335 22 B

AUTHOR: Gorbunov, V. I.; Nedavnly, O. I.; Sokolov, O. V. 44,55 44,55 44,55

TITLE: Measuring the betatron energy of bremsstrahlung 19, 44, 55

CITED SOURCE: Sb. elektron. uskoriteli. M., Vyssh. shkola, 1964, 302-305

TOPIC TAGS: betatron, bremsstrahlung measurement 9m

TRANSLATION: An instrument has been developed and built for measuring the [illegible] energy. The [illegible] in this instrument is effected by means of a delay. A principal circuit is presented, and the operation of the [illegible] considered. The instrument [illegible] tested as specimens.

[illegible]

Card 1/1

VOROB'YEV, A.A.; GORBUNOV, V.I.; VOROB'YEV, V.A.; TITOV, G.V.;
KALYUZHNAYA, T.P., red.

[Betatron defectoscopy of materials and articles] Betatronnaia defektoskopiia materialov i izdelii. Moskva, Atomizdat, 1965. 177 p. (MIRA 18:10)

T 62771-65 EWP(w)/EWP(r)/EWT(m)/EWP(t)/ETI/EWP(k)/EWP(b) Pc-4/

AUTHOR: [illegible] A. [illegible]; Pokryvskiy, A. N.

TITLE: [illegible] thick-walled weld [illegible]

SOURCE: Svarochnoye proizvodstvo, no. 7, 1965, 14-15

TOPIC TAGS: [illegible]

automatic recording potentiometer

ABSTRACT: In automatic welding at the rate of as much as [illegible]

Card 1/3

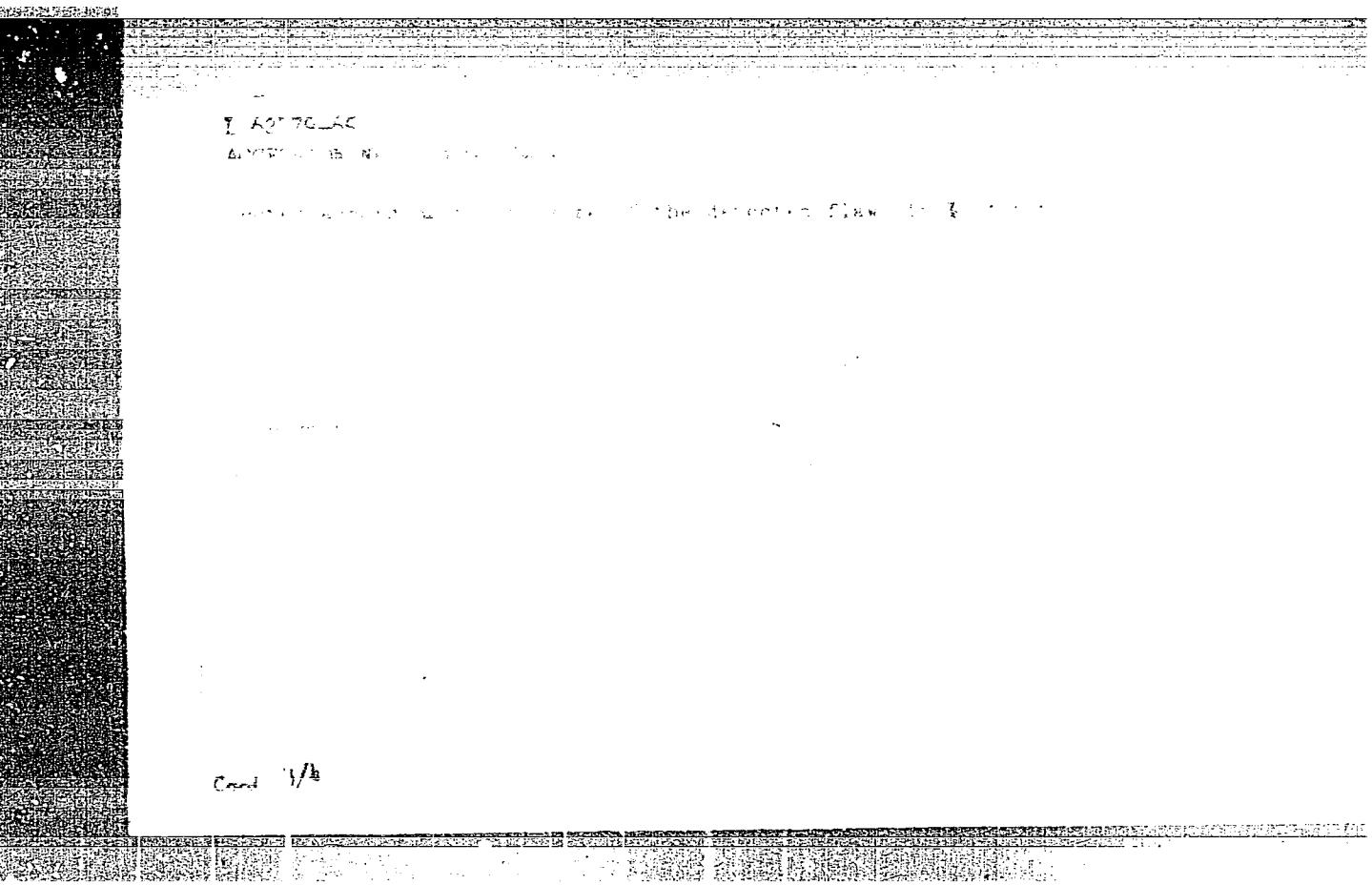
L 62779-65
ACCESSION NR: AP5017484

sisting of a NaI(Tl) crystal, and FEU-18 type photomultiplier [illegible]
extensible unit of two flow finders. The main unit contains circuit [illegible]

[illegible]

efficiency of the scintillation method depends on the ratio between the area
[illegible] the area [illegible]
therefore the detectibility of different types of flaws (cracks, [illegible]
[illegible]

Card 2/4



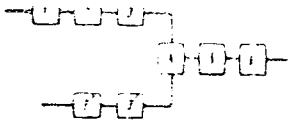


Fig. 1. Block diagram of beta ray [illegible] finder with scintillation-type [illegible] detectors

Card

VOROB'YEV, V.A.; GORBUNOV, V.I.; TITOV, G.V.; CHAKHLOV, V.L.

Use of betatrons for quality control of welds. Zav. lab. 31 no.2: 236-237 '65. (MIRA 18:7)

1. Tomskiy politekhnicheskiy institut im. S.M.Kirova.

L 01939-67 EWT(d)/EWP(c)/EWP(k)/T/EWP(v)/EWP(l) IJP(c)
ACC NR: AR6028529 SOURCE CODE: UR/0276/66/000/005/B007/B007

AUTHOR: Gorbunov, V. I.; Kuznetsov, V. I.; Kuleshov, V. K.; Yankelevich, Yu. B.

51
13

TITLE: Spectrometric methods for flaw detection in materials

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 5B49

REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 138, 1965, 20-30

TOPIC TAGS: spectrometry, flaw detection spectrometry, retardation spectrometry, gamma radiation spectrometry, gamma detection, bremsstrahlung

ABSTRACT: The value of bremsstrahlung and gamma radiation spectrometry in practical use in flaw detection is outlined. An analysis of spectral emissions obtained back of absorbers of different thickness and density and an analysis of instrumental spectra allows a correct approach to the problem of optimal conditions for radioscopy of materials and products and thus considerably expand the control potentialities of flaw detection spectrometry. Orig. art. has: 8 figures and a bibliography of 12 reference items. L. Tsukerman. [Translation of abstract.] [AM]

SUB CODE: 20, 14, 11/

Card 1/1 hs UDC: 620.179.1

L 02352-67 EWT(1)/EWT(m)/T IJP(c)

ACC NR: AR6025731 SOURCE CODE: UR/0058/66/000/004/A062/A063

45
B

AUTHOR: Gorbunov, V. I.; Pekarskiy, G. Sh.

TITLE: Influence of the thickness of a transforming screen on the photographic density and blurring of the image in the photographic method of neutron registration 9

SOURCE: Ref. zh. Fizika, Abs. 4A538

REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 138, 1965, 62-65

TOPIC TAGS: neutron counter, cadmium, thermal neutron, neutron interaction, photographic densitometer, photographic image

ABSTRACT: The authors investigated the influence of the thickness of the converting screen on the photographic density and the blurring of the image in the photographic method of neutron registration. The material for the converting screen was chosen to be cadmium, which has a large cross section for the $Cd^{113}(n, \gamma)Cd^{114}$ interaction with the thermal neutrons. A procedure is proposed for calculating the optimal thickness of the converting screen. This procedure was used to calculate the photographic densities for four possible methods of using converting screens. The results of the calculations are presented in the form of graphs. These data lead to several conclusions concerning the practical utilization of converting screens. It is established that the most effective is the use of a sandwich of two films and one screen. The density in this case is 2.4 times larger, and the relative density remains the same as in the ordinary (frontal) location of the screen. The calculation procedure de-

Card 1/2

L 02352-67

ACC NR: AR6025731

scribed makes it possible to choose the optimal screen thickness in accordance with the concrete operating conditions and the main requirements imposed on the image quality. M. L. [Translation of abstract]

SUB CODE: 20,14

Card 2/2

GORBUNOV, V. M.

"A Comparative Study of the Mammary Gland Development of Fetuses of Cattle Used for Meat and Milk Purposes." Cand Biol Sci, Moscow Technological Inst of the Meat and Dairy Ind, Moscow, 1953. (RZhBiol, No 6, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

GORBUNOV, V.M.

Innervation of the fetal mammary gland of cattle bred for meat and dairy purposes. Dokl.AN SSSR 94 no.1:141-143 Ja '54. (MLRA 7:1)

1. Institut morfologii zhivotnykh im. A.N.Severtsova Akademii nauk SSSR. (Mammary glands)

USSR / General Biology. Individual Development. B-4

Abs Jour : Ref Zhur - Biol., No 12, 1958, No 52393

Author : Gorbunov, V. M.
Inst : AS TadzhSSR, Division of Natural Sciences
Title : Embryonic Development of the Lacteal Gland in Large-Horned Cattle.

Orig Pub : Izv. Otd. est. nauk AN TadzhSSR, 1956, No. 16, 111-112

Abstract : Studies of the comparative morphology of the embryonic development of the lacteal gland in fetuses of horned cattle of the astrakhan and brown Latvian breeds were carried out. Fetuses of 3-9 months of intra-uterine development were studied. The fetal age was determined by their length and weight. The development of the lacteal gland was observed to differ, depending upon the breed. In the meaty astrakhan breed, the rudimentary gland develops more slowly,

Card 1/2

GORSHKOV, V.N.

Adipose tissue in the stroma of the mammal gland in cattle foetus.
Dokl. AN SSSR 105 no.5:941-943 Je '55. (MLRA 9:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova. Predstavlena akademikom K.I. Skryabinym.
(ADIPOSE TISSUES) (MAMMARY GLANDS) (EMBRYOLOGY--MAMMALS)

COUNTRY : USSR
CATEGORY : Farm Animals.
Cattle.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 11984

AUTHOR : Gorbunov, V. M.
INST. : Institute of Animal Morphology, AS USSR.
TITLE : Comparative Development of the Mammary Gland in Embryos of Beef and Dairy type Cattle.

ORIG. PUB. : tr. In-ta morfol. zhivotnykh. AN SSSR, 1957, vyp. 22, 132-144

ABSTRACT : A more intensive development of the glandular rudiment as well as its more abundant branching was observed in embryos of the brown Latvian cattle, a smaller content of fatty tissue and thicker layers of areolar tissue within the gland's stroma, a more abundant blood supply and innervation, and a somewhat larger weight of the mammary gland in comparison to the Astrachanskaya breed cattle. The development of the mammary gland in dairy

CARD: 1/2

GOLUBUNOV, V.M., inzh.; KISELEV, V.V., inzh.; POSTOLENKO, A.I., kand.tekhn.nauk

Possibilities for using graphite piston rings in locomotive brake compressors. Trudy TSNII MPS no.163:310-330 '58. (MIRA 12:2)

(Graphite) (Piston rings) (Railroads--Brakes) (Air compressors)

S/123/60/000/017/016/016
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1960, No. 17, p. 315, # 94167

AUTHOR: Gorbunov, V.M.

TITLE: Graphite Sealing Rings

PERIODICAL: Tr. Vses. n.-i. in-ta mekhaniz. s. kh., 1959, Vol. 26, pp. 3-19

TEXT: The article has not been reviewed.

Card 1/1

GORBUNOV, V.M.

Fibrous structures in the stroma of the mammary gland in adult animals and in the embryos of cattle. Izv. AN SSSR. Ser. biol. no.6:892-898 N-D '63. (MIRA 17:2)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.

CHIZHIKOV, A.G.; GORBUNOV, V.M.

The SZS-6 grain dryer operated with liquid fuel. Biul.tekh.-ekon. inform. no.10:70-72 '61. (MIRA 14:10)
(Grain--Drying)

GORBUNOV, V.M., inzh.

Fuel oil burner. Prom.energ. 18 no.4:20-21 Ap '63. (MIRA 16:4)

(Oil burners)

GORBUNOV, V.M.

Regeneration of the nonstriated muscle of the stomach of a pigeon. Dokl. AN SSSR 152 no.1:238-240 S '63. (MIRA 16:9)

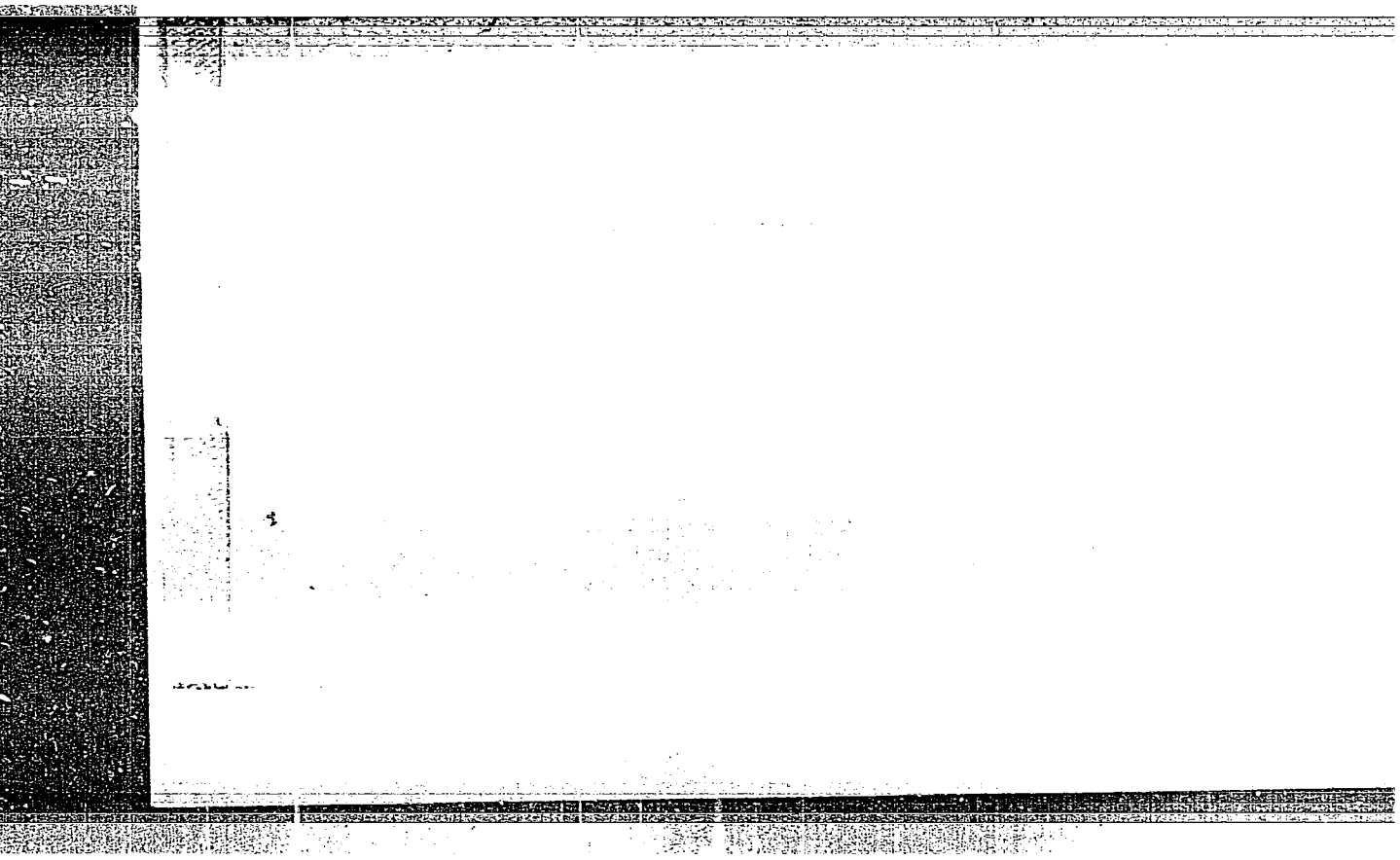
1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR. Predstavleno akademikom Yu.A.Orlovym.
(REGENERATION (BIOLOGY)) (MUSCLES)

GORBUNOV, V. P.

" Use of Sulfite Liquors for the Manufacture of Synthetic Resins and Plastics." Sub 28 Feb 51, Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendeleyev

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55



GORBUNOV, V.N.

PHASE I BOOK EXPLOITATION SOV/4592

Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass

Issledovaniya v oblasti termoreaktivnykh plastmass (Investigations in the Field of Thermosetting Plastics) Moscow, Goskhimizdat, 1959. 98 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agencies: Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii; Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass.

Ed.: V. N. Dur'yev; Tech. Ed.: Ye. G. Shpak.

PURPOSE: This book is intended for chemical engineers and technicians, and research chemists interested in thermosetting plastics.

COVERAGE: The collection contains 11 articles which reflect some Soviet efforts and achievements in synthesizing plastics with special physicochemical properties, i.e., water-, acid-, heat-, and arc-resistance. No personalities are mentioned. References given are mainly Soviet and English, with several French and German and accompany the articles.

AVAILABLE: Library of Congress (TP986.A2168)

JA/rn/fal
1-5-61

Card 3/3

15

GORBUNOV, V.N.

5(3); 25(2) PHASE I BOOK EXPLOITATION SOV/2884

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F.E. Dzerzhinskogo

Plastmassy v mashinostroyenii (Plastics in Machine Building) Moscow, Mashgiz, 1959. 2?? p. Errata slip inserted. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): V.K. Zavgorodniy; Ed. (Inside book): B.M. Rotkin, Engineer; Ed. of Publishing House: G.M. Konovalov; Tech. Ed.: A. F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Making (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This collection of articles is intended for engineers and technicians in the machine-building industry.

COVERAGE: This collection reviews the progress made by the Soviet Union in the field of manufacturing new plastic materials and fabricating different plastic-material articles for use in the machine-building industry. Physicomechanical and dielectric properties of phenolite, decorrosite, fluoroplastics, epoxy resins, polyamides, laminated plastics, and fiberglass plastics are analyzed and their use in machine building described. Characteristics and composition of adhesives and bonding agents are given and the technology of the pressing process described. Methods of coating with plastics as a protection against corrosion are explained, and metallization of plastics achieved by vacuum evaporation is reviewed, as well as equipment used for manufacturing and fabricating plastics and articles made of plastics. Mechanization of certain operations and automatic control of various processes are discussed. No personalities are mentioned. References accompany individual articles.

AVAILABLE: Library of Congress

Card 4/4 TM/gmp 1-19-60

S/081/62/000/011/047/057
E202/E192

AUTHOR: Gorbunov, V.N.

TITLE: Structural laminates based on fibreglass and paper

PERIODICAL: Referativnyy zhurnal, Khimiya, no.11, 1962, 591, abstract 11 P 71. (In the Symposium: "Plastmassy v mashinostr." ("Plastics in Machinery"), M., Mashgiz, 1959, 29-41).

TEXT: Laminar glass plastics based on fibreglass are described (fibreglass as base of laminar glass plastics, properties of laminar glass plastics and adhesives for their preparation, objects manufactured from laminar glass plastics and methods of their manufacture). Laminar plastics based on paper are also described (the physical and mechanical properties of laminar plastics based on phenolformaldehyde resins, the physical and mechanical properties of decorative plastics, properties and compositions of laminating adhesives).

[Abstractor's note: Complete translation.]

Card 1/1

87921 S/191/60/000/004/002/015
B016/B058

15.8112 2209

AUTHORS: Gorbunov, V. N., Rydvanova, S. S.

TITLE: Kinetics of the Condensation Reaction of Urea With Formaldehyde at High Temperatures

PERIODICAL: Plasticheskiye massy, 1960, No. 4, pp. 5-8

TEXT: The authors report on a study of the condensation kinetics of urea with formaldehyde at temperatures above 100°C. They elaborated special methods for this purpose. A calculated amount of urea was dissolved in a calculated amount of formalin with a pH value of 5.5-6, and this solution was kept in a sealed ampoule in hot oil (140-150°C) for up to 20 min. The ampoule was subsequently quenched in cold water. The content of free CH_2O and of methylol groups in the cooled sample was determined. From the results obtained the authors conclude that the high-temperature condensation proceeds faster than under atmospheric pressure. This process comprises conversions of the resin, which otherwise occur during drying of the molded material and molding. The resins formed in this way differed in several

Card 1/4

Kinetics of the Condensation Reaction of Urea With Formaldehyde at High Temperatures

S/191/60/000/004/002/015
B016/B058

constants from those produced by the ordinary process. The authors ascertained the difference between the CH_2O concentration at the beginning of the reaction (31.8%) and the total of free CH_2O and methylol groups at a certain instant of the reaction. This difference corresponds to the amount of CH_2O which reacted under the formation of bonds. The authors point out that the drawing of the curve for the degree of condensation may offer a new method of studying the polycondensation processes of polyamide resins. It may also contribute to the clarification of the formation mechanism and the solidification of these resins. The authors further determined the refractive indices during the reaction. The authors refuted the assumption that condensation is not characterized by these indices. By means of the precision refractiometer ИРФ-23 (IRF-23) they found that the refractive index changes so quickly in the course of the reaction that this can be traced directly (Fig. 3). This method may be used to check the manufacturing process and, if suitably refined, for studying the reaction kinetics, too. Additional experiments were made at 140°C and a ratio of urea : CH_2O = 1 : 1.5; 1 : 1.3, and 1 : 1.2 in weakly acid and alkaline media, and the

Kinetics of the Condensation Reaction of Urea With Formaldehyde at High Temperatures

S/191/60/000/004/002/015
B016/B058

temperature dependence of the condensation intensity was studied. The authors conclude from the results obtained that at about 170°C, free CH_2O and methylol groups disappear almost completely from the resin. The authors describe the temperature of 170-180°C as being critical. The destruction of the product and the formation of substances with new structures is related to it. Consequently, high temperature considerably accelerates the condensation and (up to 170°C) does not impede the manufacture of high-quality resins. G. N. Artamonova, V. A. Shorygin, and A. I. Stepanova participated in the experimental part of the study. A paper by A. A. Vansheydt (Ref. 7) is mentioned. There are 6 figures and 7 references: 2 Soviet, 2 British, 2 German, and 1 US.

S/191/60/000/004/002/015
B016/B058

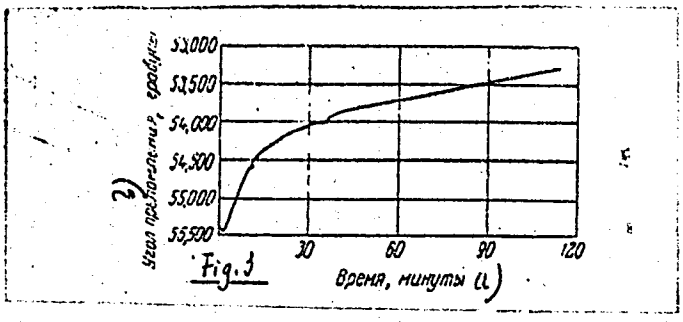


Fig. 3

Legend to Fig. 3: Change of the angle of refraction for monochromatic light λ = 546.8 mμ during condensation of urea with formaldehyde at a ratic of 1 : 2, at 98°C and pH = 5.5. a) time, minutes b) angle of refraction, degrees.

87430
S/191/60/000/010/002/017
B004/B060

15.8104

AUTHORS: Akutin, M. S., Gorbunov, V. N., Margaritova, M. F., Nagibina, A. G., Rusakova, K. A.

TITLE: Synthetic Thermosetting Resins on the Basis of Low-molecular Liquid Butadiene - Styrene Copolymers

PERIODICAL: Plasticheskiye massy, 1960, No. 10, pp. 6-8

TEXT: The results of experiments conducted for obtaining low-molecular butadiene-styrene copolymers are described. These copolymers were examined for their usability in the production of thermosetting resins. Divinyl and styrene copolymers were produced by a method developed at the kafedra sinteza polimerov MITKhT im. Lomonosova (Chair of Polymer Synthesis of the Moscow Institute of Fine Chemical Technology imeni Lomonosov) (Ref. 10). [Abstracter's Note: The method is not described here]. The initiators used were benzoyl peroxide, diphenyl ethane hydroperoxide, cumene hydroperoxide. The yield obtained under optimum conditions was 60-65% referred to the monomers. The copolymer contained 20% styrene. The polymerization was performed (a) in inert solvents (hexane, heptane, benzene) or in active

87430

Synthetic Thermosetting Resins on the Basis of Low-molecular Liquid Butadiene - Styrene Copolymers

S/191/60/000/010/002/017
B004/B060

solvents (CCl_4); (b) in emulsion by the use of 0.3-10% diproxide as regulator, sodium salts of various sulfonic acids as emulsifiers, at 5-40°C; (c) in toluene in the presence of metallic sodium (1-10%) at 50-90°C. The low-molecular copolymers obtained were examined for their molecular weight, their double bond content, and their 1,4-bonds (by means of perbenzoic acid), and their hardening capacity was tested at 130-180°C. The copolymers obtained by means of sodium (molecular weight 4000-6000, 21-23% 1,4-bonds) are hardened within 8 hours to form a resin which is insoluble to 94%. The substances polymerized in emulsion (molecular weight 3000-5000) and in solution (molecular weight 1500-3000) (50-52%, 1,4-bonds) remained elastic after 40 hours of hardening and contained only 83-90% of insoluble substances. The glass reinforced plastics produced therefrom were resistant to humidity and had a breakdown voltage of 18.9-32 kv/mm; bending strength of 1080 kg/cm^2 and a Brinell hardness of 8.9 kg/mm^2. Epoxidation by means of peracetic acid or perbenzoic acid yielded resins which contained 3-5.8% epoxide groups, hardened on heating within a few hours and were insoluble to 96-98%. S. S. Medvedev is mentioned. There are 2 tables and 10 references:

Card 2/3

87430
S/191/60/000/010/002/017
B004/B060

Synthetic Thermosetting Resins on the Basis of Low-molecular Liquid Butadiene - Styrene Copolymers

3 Soviet, 6 US, and 1 British.

X

Card 3/3

ZAREMBO, K.S.; RASSADINA, Ye.N.; GORBUNOV, V.N.; SHEVELEV, B.P.

High pressure gas pipelines made of fiber glass plastic materials. Trudy VNIIGAZ no.8:124-141 '60. (MIRA 15:5)
(Gas, Natural—Pipelines) (Glass reinforced plastics)

GORBUNOV, V.N.

The a.c. electric meters. Standartizatsiia 24 no.11:35 N '60.
(MIRA 13:11)
(Electric meters--Standards)

ACCESSION NR: AP4009828 S/0191/64/000/001/0011/0013

AUTHORS: Gorbunov, V. N.; Nagibina, A. G.; Akutin, M. S.

TITLE: Thermally reactive resins based on divinyl polymers

SOURCE: Plasticheskiye massy*, no. 1, 1964, 11-13

TOPIC TAGS: divinyl oligomer, divinyl styrene oligomer, divinyl oligomer hardening, divinyl oligomer curing, dienol S., thermosetting divinyl oligomer, thermosetting resin, cast polymer, laminated plastic

ABSTRACT: The conditions for preparing divinyl and divinyl-styrene oligomers and thermally reactive compositions based thereon were investigated. The divinyl and styrene are polymerized over metallic sodium at 40-90C to form oligomers having a molecular weight of 1500-20,000. Optimum conditions for hardening the divinyl oligomers include the addition of a vinyl monomer (about 50% vinyl toluene), 4-6 wt.% of dicumyl peroxide initiator and hardening at 150-170C. The exotherms of gelation at various temperatures are presented. These resins have high physical-mechanical property indices. They

Card 1/2

ACCESSION NR: AP4009828

are suitable for production of laminated plastics and cast articles, with good water-resistant and dielectric properties. These thermally reactive materials based on divinyls are given the general name dienol S. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: MA NR REF SOV: 001 OTHER: 003

Card 2/2

ACCESSION NR: AP4043317 S/0191/64/000/008/0007/0010

AUTHOR: Gorbunov, V. N., Ry*dvanova, S. S., Zalkind, G. I.

TITLE: Epoxidation of divinyl oligomers

SOURCE: Plasticheskiye massy*, no. 8, 1964, 7-10

TOPIC TAGS: oligomer, epoxide resin, epoxidation, divinyl oligomer, peracetic acid, infrared spectrum, double bond oxidation

ABSTRACT: The epoxidation of divinyl oligomers with peracetic acid under various conditions was investigated and the effect of the degree of epoxidation and the composition of the resulting epoxide oligomers on their properties was determined by quantitative spectral analysis of the double bonds in the initial oligomer and in the epoxide products. The double bonds were determined by infrared spectroscopy using absorption bands at 911 and 1640 cm^{-1} for 1, 2-, 967 cm^{-1} for trans-1, 4 and 720 or 1660 cm^{-1} for cis-1, 4 double bonds. The reaction was carried out by four different methods: epoxidation with 40% aqueous peracetic acid, with anhydrous peracetic acid (in ethylacetate solution) and epoxidation at the moment of peracetic acid formation with phosphoric acid or with an ion-exchange resin as a catalyst. The results were evaluated by the infrared spectra of the vinyl epoxyoligomers obtained by the different methods. Comparison of the tabulated

Card 1/2

ACCESSION NR: AP4043317

experimental data shows that at the moment when the maximal amount of epoxide oxygen is obtained, only 55-68% of the total number of double bonds have been consumed in the reaction. The reactivity of the 1, 2 double bonds is much smaller than that of the trans-1, 4 bonds. Regardless of the epoxidation method, the same number of 1, 2 double bonds enter into the reaction (about 45%); thereafter, their number remains almost unchanged. The small amount (70%) of trans-1, 4 bonds entering into the reaction during epoxidation at the moment of peracetic acid formation is probably due to the insufficient peracetic acid concentration. The indication that cis-1, 4 double bonds are epoxidized only partially needs further verification on other oligomers. On the basis of the experimental data, it can be assumed that during the epoxidation of divinyl oligomers the most active oligomers, with the predominance of trans-1, 4 double bonds, are those obtained by the method of radical polymerization. The isotherms for epoxide oligomers hardened by maleic anhydride at 70-150C show that the heat distortion changes only slightly up to 300C(from 50-100 mμ). The physico-mechanical and electrical properties of the epoxide oligomers are tabulated. Orig. art. has: 1 table, 6 figures and 3 chemical equations.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00

SUB CODE: OC, MT NO REF SOV: 005 OTHER: 005

Card 2/2

GORBUNOV, V.N.; NAGIBINA, A.G.; YASHINA, V.Z.; ZAIKIND, G.Y.

Effect of the molecular structure on the heat distortion of hardened divinyl and divinyl-styrene polymers (oligomers). Plast.massy no.7:6-9 '64. (MIRA 17:10)

ZALKIND, G.I.; SHABADASH, A.N.; GORBUNOV, V.N.; NAGIBINA, A.G.

Quantitative analysis of low-molecular divinyl polymers and divinyl rubbers by means of infrared absorption spectra. Plast. massy no.4:61-62 '65. (MIRA 18:6)

L 22142-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6006361 (A) SOURCE CODE: UR/0413/66/000/002/0095/0095

AUTHOR: Gorbunov, V. N.; Filippenko, D.-M.

ORG: none

TITLE: Preparation of epoxy compositions. Class 39, No. 178105 [announced by Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 95

TOPIC TAGS: epoxy plastic, cyclohexane, polymerization

ABSTRACT: This Author Certificate describes a method for preparing epoxy compounds by mixing vinylcyclohexene monoxide and an unsaturated polymerizing compound in the presence of free-radical polymerization initiators. To lower the viscosity of the composition and raise the heat resistance of the cured product, dicarboxylic acid anhydrides, such as maleic and anhydride, are proposed for use as unsaturated compounds. Ionic-type catalysts will accelerate the hardening process. [LD]

SUB CODE: 11/ SUBM DATE: 05Oct63

Card 1/1 UDC: 678.746.4-134.434

L 44577-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6015662 (A) SOURCE CODE: UR/0413/66/000/009/0074/0074

INVENTOR: Gorbunov, V. N.; Rydvanova, S. S.; Filippenko, D. M.; Potapova, V. A.

ORG: none

TITLE: Method of preparing low-viscosity epoxy compounds. Class 39, No. 181282 [announced by State Scientific Research Institute for Plastics (Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 74

TOPIC TAGS: epoxy compound, low viscosity epoxy compound

ABSTRACT: This Author Certificate introduces a method of preparing low-viscosity epoxy compounds which can be hardened with anhydrides of carboxylic acids by mixing the epoxy resin with vinylcyclohexene monoxide as an active diluent. To expand the raw-material range of low-viscosity epoxy compounds, epoxidized, unsaturated oligomers, such as epoxidized divinylstyrene oligomer are suggestes as the epoxy

Card 1/2 UDC: 678.746.22-136.22.043:66.063.932

L 44577-66

ACC NR: AP6015662

resin. Catalysts for free-radical polymerization are suggested as an additional component. [Translation] [LD]

SUB CODE: 11/ SUBM DATE: 02Nov63/

Card 2/2

ACC NR: AP6029915 (A) SOURCE CODE: UR/0413/66/000/015/0088/0088

INVENTORS: Gorbunov, V. N.; Yashina, V. Z.; Rubtsova, I. K.

ORG: none

TITLE: Method for obtaining amino-formaldehyde resins. Class 39, No. 184439 [announced by Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 88

TOPIC TAGS: amino plastic, formaldehyde, condensation polymerization, polymerization initiator

ABSTRACT: This Author Certificate presents a method for obtaining amino-formaldehyde resins by condensing urea or melamine with formaldehyde in an acid or neutral medium. To improve the physico-mechanical properties, the condensation is carried out under pressure and in the presence of a peroxy-free-radical type initiator. The condensation may also be carried out in the presence of an unsaturated compound, e.g., methyldimethacryloxyethylphosphinate.

SUB CODE: 11, 07 SUBM DATE: 23Jun65

Card 1/1 UDC: 678.652.'737'21'41

GORBUNOV, Vasiliy Petrovich

[Stenosing ligamentitis of the dorsal ligament of the carpus and of the cricoid ligaments of the fingers] Stenoziruiushchie ligamentity tyl'noi sviazki zapiast'ia i kol'tsevidnykh sviazok pal'tsev. Leningrad, Medgiz, 1956. 70 p. (MIRA 13:6)
(HAND--DISEASES)

GORBUNOV, V. P., Cand Biol Sci -- (diss) "Biological character and selection of better strains of corn under the conditions of the Uzbek SSR." Leningrad, 1960. 19 pp; (All-Union Order of Lenin Academy of Agricultural Sciences im V. I. Lenin, All-Union Inst of Horticulture); 250 copies; price not given; (KL, 18-60, 149)

GORBUNOV, V.P.; TIKHONOVA, I., red.; BAKHTIYAROV, A., tekhn. red.

[Basic corn vaieties grown in Tashkent Province] Osnovnye sorta kukuruzy; vozdelyvaemye v Tashkentskoi oblasti. Tashkent, Gosizdat UzSSR, 1962. 28 p. (MIRA 16:4)
(Tashkent Province--Corn (Maize))--Varieties)

GORBUNOV, Vladimir Pavlovich; PAVLOVA, Anna Mikhaylovna; GLUSHENKOVA, Nina Ivanovna; LEBEDEV, S., red.; ABBASOV, T., tekhn. red.

[For two crops a year] Za dva urozhaia v god. Tashkent, Gos-izdat UzSSR, 1963. 38 p. (MIRA 16:5)
(Uzbekistan--Feeds)

GORBUNOV, V.P., inzh.; GIL'MAN, M.S., inzh.

120 ton capacity hydraulic jack. Stroi. i dor. mash. 9 no.12:28-29 D '64. (MIRA 18:3)

GORBUNOV, V.P., inzh. (Leningrad); KOROTKOV, S.V., kand. tekhn. nauk (Leningrad); SHISHKOV, B.A., inzh. (Leningrad)

Design of composite systems with two motor drives. Elektrichestvo no.7: 74-79 Jl '65. (MIRA 18:7)

L 35483-66 EWT(1)/T-2 WW

ACC NR: AP6012122 SOURCE CODE: UR/0413/66/000/007/0042/0042

INVENTOR: Tishechkin, Yu. V.; Gorbunov, V. P.

36
B

ORG: none

TITLE: Vacuum pump. 23 Class 27, No. 180286

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 42

TOPIC TAGS: pump, vacuum pump ~~air pump, blower, compressor~~

ABSTRACT: An Author Certificate has been issued for a vacuum pump containing a housing with gas-suction holes overlapped by the piston during pressure strokes. To reduce resistance over the suction path, the housing is enclosed in a prechamber connected by a pipeline to the evacuation tank. (See Fig. 1) [LD]

Card 1/2 UDC: 621.521/522

L 33483-66
ACC NR: AP6012122

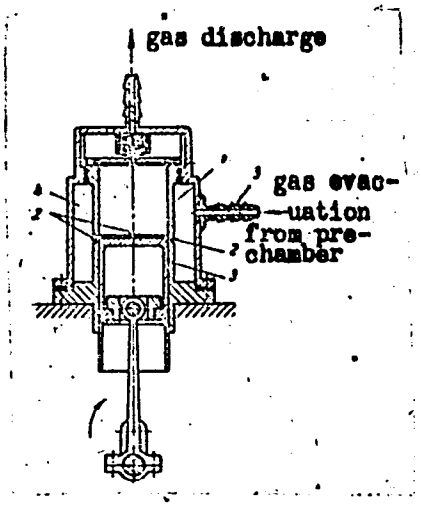


Fig. 1. Vacuum pump
1— housing; 2— holes;
3— piston; 4— prechamber;
5— pipeline

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 08Apr64

Card 2/2 JS

L 46943-66

ACC NR: AP6029059 SOURCE CODE: UR/0413/66/000/014/0092/0092

54
B

INVENTOR: Tishechkin, Yu. V.; Gorbunov, V. P.; Sokov, I. A.

ORG: none

TITLE: Device for generating pressure pulses in gaseous media. Class 42, No. 183977

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 92

TOPIC TAGS: gas dynamics, pressure pulse, pulse generator

ABSTRACT: This is a variant of a device for generating pressure pulses in gaseous media, described in Author Certificate No. 146568. In order to regulate the shape of the curve of the law of the pressure pulses and to bring it closer to the harmonic, it is equipped with a throttling-control device made in form of external and internal throttle plates mounted at the inlet of the flow chamber. In order to increase the pressure pulses in the upper frequency region, for example from 1000 to 2500 cps, the flow chamber is provided with telescopic resonator, which when testing systems with a fluid filling, has a working fluid separated from the flow chamber by a dividing diaphragm. In order to increase the range for regulating the mean pressures in the region close to atmospheric pressures and lower, the flow chamber is made with a jet ejector, on the same axis with which is placed the inlet of a working

Card 1/2 UDC: 621.617.5

L 46943-66

ACC NR: AP6029059

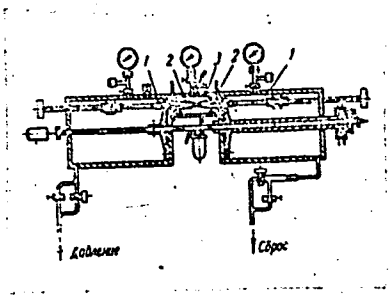


Fig. 1. Device for generating gas pulses

1, 2 - Throttle plates; 3 - working chamber.

chamber, which is movable along this axis; this allows the gas to be diverted through the throttle of the working chamber into the vacuum circuit. Orig. art. has: 1 figure. [AV]

SUB CODE: 21/ SUBM DATE: 29Dec62/

Card 2/2

GORBUNOV, V.P., inzhener.

Gluing parts in repairing building machinery. Transp.stroi. 6 no.9: 28-29 S '56. (MLRA 9:11)

(Gluing)

GORBUNOV, V.P.

Successful work of track workers in a remote division. Put' i put.khoz. 5 no.9:18-19 S '61. (MIRA 14:10)

1. Nachal'nik Skovorodinskoy distantsii Zabaykal'skoy dorogi.
(Transbaikalia—Railroads—Maintenance and repair)

GORBUNOV, V.P., inzh.

In the Dzhankoi railroad district. Avtom., telem. i sviaz' 7 no.6:44 Je '63. (MIRA 17:3)

1. Dzhankoyskaya distantsiya signalizatsii i svyazi Pridneprovskoy dorogi.

ACC NR: AP7005697 (A) SOURCE CODE: UR/0413/67/000/002/0187/0188

INVENTOR: Abramovich, R. B.; Arinushkin, L. S.; Gorbunov, V. S.; Ivanov, Yu. P.; Yasinskiy, S. Ya.

ORG: None

TITLE: An electrically driven pump assembly for flushing systems such as those used in the washrooms on passenger aircraft. Class 62, No. 152798

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 187-188

TOPIC TAGS: sanitary equipment, auxiliary aircraft equipment, water pump

ABSTRACT: This Author's Certificate introduces: 1. An electrically driven pump assembly for flushing systems such as those used in the washrooms on passenger aircraft. The installation consists of an electric motor and a pump. Operational reliability is improved by keeping corrosive sewage away from the motor. The motor is located at a distance from the pump on a rigid hollow column above the flush tank. The motor is connected to the pump through an intermediate drive located in the standing column. This drive consists of two shafts pinned together and connected by splines to the motor and the pump. 2. A modification of this assembly in which the column is equipped with an overflow tube connected to the tank for maintaining the proper level of flushing liquid in the column.

SUB CODE: 13/ 011 SUBM DATE: 25Feb62

Card 1/1

GORBUNOV, V.R., inzh.; CHIRKUNOV, A.F., inzh.

Mechanized potato cultivation in the German Democratic Republic. Mekh. i elek. sots. sel'khoz. 16 no.3:52-56 '58. (MIRA 11:6)

1.Ministerstvo sel'skogo khozyaystva (for Gorbunov). 2.Nauchno-issledovatel'skiy institut kartofel'nogo khozyaystva (for Chirkunov). (Germany, East--Potatoes)

ZAKHARCHENKO, A.L., inzh.; MARAKHTANOV, K.P., inzh.; GORBUNOV, V.R., inzh.; ZHIVCHIKOV, N.I., inzh.; KOZLOVSKIY, N.I., inzh.; BARSUKOV, A.F., red.; PECHENKIN, I.V., tekhn.red.

[New tractors and agricultural machinery; results of testing in 1957] Novye traktory i sel'skokhoziaistvennye mashiny; rezul'taty ispytanii 1957 goda. Moskva, No.2. 1959. 331 p. (MIRA 13:12)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Tractors--Testing)
(Agricultural machinery--Testing)

BOGDASHIN, A.S.; BOGORODSKIY, A.A.; VINGARDT, M.B.; GORBUNOV, V.I.; GORBUNOV, V.R.; DUROV, V.K.; YERMAKOV, A.L.; IVANOV, A.A.; KARAKOVA, N.I.; KOBYLYAKOV, L.M.; KOZLOVSKIY, N.I.; MARAKHTANOV, K.P.; MIRUMYAN, G.N.; NECHAYEV, G.P.; NOVIKOV, A.G.; OL'KHOVSKIY, K.I.; PESTRYAKOV, A.I.; POLAPANOV, A.V.; SKLYAREVSKAYA, Ye.Kh.; SOLDATENKOV, S.I.; SOROKIN, Ye.M.; TRUSHINA, Z.V.; FEDOROV, P.F.; FEDOSEYEV, A.M.; FROG, N.P.; SHAMAYEV, G.P.; YANOVSKIY, V.Ya.; ORLOV, A.D., spetsred.; DEYEVA, V.M., tekhn.red.

[Handbook on new agricultural machinery] Spravochnik po novoi tekhnike v sel'skom khozisistve. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1959. 364 p. (MIRA 13:2)
(Agricultural machinery)

GORBUNOV, V.R., inzh.

Mounted machines used in vegetable growing. Mekh. i elek. sots. sel'khoz. 17 no.1:41-44 '59. (MIRA 12:1)

1.Ministerstvo sel'skogo khozyaystva SSSR.
(Agricultural machinery)

KALAMIN, Aleksey Ivanovich; GORBUNOV, V.R., inzh., retsenzent; NELYUBOVA, Ye.I., red.izd-va; UVAROVA, A.F., tekhn. red.

[Machines for grading potatoes] Mashiny dlia sortirovaniia kartofelia. Moskva, Mashgiz, 1961. 83 p. (MIRA 14:11)
(Potatoes—Grading) (Agricultural machinery)

GORBUNOV, V.R. (Moskva); MARAKHTANOV, K.P. (Moskva); MUSINOV, L.N. (Moskva)

Agriculture should have new improved machinery. Fiz. v shkole 21 no.2:10-28 Mr-Ap '61. (MIRA 14:8)
(Agricultural machinery)

GORBUNOV, V.R., inzh.

Recent potato planting machines. Trakt. i sel'khozmash. 31 no.11:22-23 N '61. (MIRA 14:12)

1. Soyuzsel'khostekhnika.
(Potatoes)
(Planters(Agricultural machinery))

GUDZENKO, I.P.; FIRSOV, N.V.; GORBUNOV, V.R., inzh., retsenzent; ZHURAVLEVA, M.N., red.izd-va; YEGORKINA, L.I., red. izd-va; SMIRNOVA, G.V., tekhn. red.

[Machines for raising and harvesting potatoes]Mashiny dlia vozdelyvaniia i uborki kartofelia. Moskva, Mashgiz, 1962. 269 p. (MIRA 16:3)

(Potato machinery)

HADEN-GUEST, Stephen (1902-), red.; GORBUNOV, V.V.[translator]; PANCHESHNIKOVA, L.M.[translator]; FARBEROVA, N.I. [translator]; VASIL'YEV, P.V., red.; VIPPER, P.B., red.

[World geography of forest resouces] Geografiia lesnykh resursov zemnogo shara. Pod red. P.V.Vasil'eva i P.B.Vippera. Moskva, Izd-vo inostr. lit-ry, 1960. 665 p. illus., maps. Translated from the English. (MIRA 15:3)

(Forests and forestry)

L 17919-63 EPR/EPF(c)/EWT(m)/EDS AFFTC/RPL Ps-4/Pr-4 RM/WW/JW/JWD/H

ACCESSION NR: AT3006080 S/2938/63/000/000/0219/0225

AUTHOR: Gorbunov, V. V. 67

TITLE: Solubility of water in nitroglycerine

SOURCE: Teoriya vzry*vchaty*kh veshchestv, sbornik statey, 1963, 219-225

TOPIC TAGS: explosive, nitroglycerine, diglycoldinitrate, dinitroglycerine

ABSTRACT: Author studied the solubility of water in nitroglycerine at temperatures of 30-90C and in diglycoldinitrate and dinitroglycerine at 120C. The solubility constant of water in nitroglycerine in the indicated temperature range changes from 95 x 10^{-6} mm^{-1} to 13 x 10^{-6} mm^{-1}. The solubility constant of water at 120C in diglycoldinitrate is slightly less (5.2 x 10^{-6} mm^{-1}) and much larger in dinitroglycerine (36 x 10^{-6} mm^{-1}). The solubility of water in nitroglycerine

Card 1/2

L 17952-63

ACCESSION NR: AT3006080

6

at 120C is 6.6×10^{-6} mm^{-1}. The solubility of water in nitroglycerine containing 0.3 to 0.6% by weight of nitric acid is 5 to 7 times greater than its solubility in the neutral product at the same temperature. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: None

SUBMITTED:	00	DATE ACQ:	14Jun63	ENCL:	00
SUB CODE:	AR, CH	NO REF SOV:	006	OTHER:	000

Card 2/2

L 17938-63 EPR/EPF(c)/EWT(m)/BDS AFFTC/RPL Ps-4/Pr-4 RM/WW/JW/JWD/H

ACCESSION NR: AT3006100 S/2938/63/000/000/0528/0534

AUTHORS: Andreyev, K. K.; Gorbunov, V. V. 74

TITLE: Thermostability of explosive crystals

SOURCE: Teoriya vzry*vchaty*kh veshchestv, sbornik statey, 1963 528-534

TOPIC TAGS: explosive , explosive crystal , cyclonite, potassium picrate, TNT, picric acid, tetryl, heat shock (expl), PETN

ABSTRACT: Authors developed a methodology for evaluating the sensitivity of explosive crystals to thermal shock produced by heated gas. The sensitivity to thermal shock of the crystals of a number of explosives was determined at a furnace temperature of 300-1100C. Cyclonite and potassium picrate crystals are the most prone to split. Crystals of TNT, picric acid and tetryl are slightly sensitive to heat shock. The effect of PETN and cyclonite crystal sizes upon their sensitivity to heat shock at a furnace temperature of 500 and 700C were studied. The sensitivity increases with an increase in

Card 1/2

L 17938-63

ACCESSION NR: AT3006100

the size of these crystals. The findings were compared with some regularities which were observed during the transition of the explosive's burning in a closed volume into explosion. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 14Jun63	ENCL:	00
SUB CODE: AR, PH	NO REF SOV: 003	OTHER:	000

Card 2/2

L 18942-63 EPR/EWA(b)/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/RPL Ps-4/
Pa-4/Pc-4/Pr-4 RM/WW/JW/MAY/JWD/H

ACCESSION NR: AP3006613 S/0076/63/037/009/1958/1965

88
86

AUTHOR: Andreyev, K. K.; Gorbunov, V. V.

TITLE: Studies on the deflagration-to-detonation transition of explosives. 2. Combustion stability of powdered explosives

SOURCE: Zh. fizicheskoy khimii, v. 37, no. 9, 1963, 1958-1965

TOPIC TAGS: combustion, combustion stability, stability, solid explosive, explosive, propellant, deflagration to detonation transition, powdered explosive, pressed explosive, accelerated combustion

ABSTRACT: The combustion stability (susceptibility of solid explosives to deflagration-to-detonation transition) of pressed hexogen, trotyl, pentaerythritol tetranitrate (PETN), and mercury fulminate specimens has been studied as a function of density, particle size, and charge length. The experiments were conducted in a pressure bomb equipped with a strain-gage-type pressure sensor of 18—20 kc frequency capable of recording oscillographically

Card 1/5

ACCESSION NR: AP3006613

signals of 1 msec duration. Powdered explosives of different particle size (10—100 μ) were compacted to the desired density in a plexiglass tube 10 mm in diameter and 30 mm long. The charge was ignited with black powder. Certain of the results are shown in Figs. 1—3 of the Enclosure. Trotyl was found to be the most stable of the explosives tested: specimens of density 0.73 burned normally at the same rate as specimens of density 0.96. At a density of 0.67 accelerated combustion was observed after 0.6 sec, and total combustion lasted 1.4 sec as compared to 4 sec under the normal combustion regime. Hexogen was considerably less stable and burned normally only at density 0.98; accelerated combustion, followed by detonation, was observed with specimens of density 0.93. \PETN of density 0.82 exhibited accelerated combustion and detonation. Mercury fulminate was most susceptible to detonation. The combustion stability of explosives at a given density decreased with increasing particle size (see Fig. 3 of the Enclosure). The considerable differences observed in the combustion stability of individual explosives is apparently caused by the permeability of the charge, which controls flame penetration into the explosive,

L 18942-63

ACCESSION NR: AP3006613

as well as by the combustion-gas temperature; the latter is in turn controlled by the reaction rate and heat release in the individual reaction. The higher the temperature of the gas, the more readily it penetrates into the charge. The method described may be used generally to evaluate the combustion stability of solid explosives. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology)

SUBMITTED: 28Apr62 DATE ACQ: 30Sep63 ENCL: 02

SUB CODE: PR, AS NO REF SOV: 000 OTHER: 001

Card 3/5

L 17956-63 EPR/EPF(c)/EWT(m)/BDS AFFTC/RPL Pe-4/Pr-4 RM/WW/JW/JWD

ACCESSION NR: AT3006077 S/2938/63/000/000/0197/0208

AUTHORS: Gorbunov, V. V.; Svetlov, B. S.

TITLE: Effect of water and acid upon self-accelerating decomposition of nitroglycerine.

SOURCE: Teoriya vzryvchatykh veshchestv, sbornik statey, 1963, 197-208

TOPIC TAGS: explosive, nitroglycerine, nitric acid

ABSTRACT: Authors studied the thermal decomposition of nitroglycerine in the presence of water and nitric acid of various concentrations at temperatures of 40 to 100C under conditions where the decomposition products added to the nitroethers are almost completely dissolved in it. It was shown that water decreases the induction period of the nitroglycerine decomposition approximately equally throughout the studied temperature range. However, the effect of nitric acid on the induction period is lower than that of water at a high temperature; and it is considerably greater at a low temperature. The induction period has been evaluated at 20C for a moist and acidic nitroglycerine by means of extrapolation. It was shown that, at 40 and 60C, the induction period of nitroglycerine

Card 1/2

L 17956-63
ACCESSION NR: AT3006077

decomposition decreases the most with 25 - 40% nitric acid. Water and nitric acid, introduced in various concentrations into the nitroglycerine, primarily effect the processes which shorten the induction period. The experiments with sharply increased decompositions to which water and nitric acid were added showed the same mechanism as the pure nitroglycerine. Orig. art. has: 11 figures.

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 14Jul63	ENCL:	00
SUB CODE: AR, CH	NO REF SOV: 005	OTHER:	001

Card 2/2

L 17955-63 EPR/EPF(c)/EWT(m)/EDS AFFTC/RPL Pe-4/Pr-4 RM/WW/RM/JWD/H
ACCESSION NR: AT3006076 S/2938/63/000/000/0190/0197

AUTHORS: Gorbunov, V. V.; Svetlov, B. S.

70

TITLE: Effect of temperature upon decomposition of nitroglycerine

SOURCE: Teoriya vzryvchatykh veshchestv, sbornik statey, 1963, 190-197

TOPIC TAGS: explosive , nitroglycerine, nitroethers

ABSTRACT: The decomposition of nitroglycerine at low temperatures (40 to 100C) was studied. Authors show that decomposition of nitroglycerine at these temperatures proceeds qualitatively, similar to the decomposition of nitroglycerine at much higher temperatures (80 to 140C). This similarity is due to presence of two macroscopic stages: critical pressure and the approximate proportionality of the gas formation rate in the second stage to the square of pressure of the decomposition products. Simultaneously with the known similarity, the authors also show the quantitative differences in the decomposition of nitroglycerine at low and high temperatures. The dependence of the initial gas formation rate upon the temperature is less pronounced at low temperatures. In the second decomposition stage, the critical rate increment of the gas formation amounts to about

Card 1/2

L 17955-63
ACCESSION NR: AT3006076

15 kcal/mole in contrast to high temperatures at which the gas formation rate in the second stage is practically independent of the temperature. The induction period of decomposition of nitroglycerine at 200 was evaluated. Results were compared with the effect of the degree of filling of the reaction vessel as a possibility of removing the gaseous products of decomposition from nitroethers. A method of studying the thermal decomposition of explosive materials has been developed, using the maximum degree of filling of the reaction vessel which mades it possible to expand the range of temperatures to much lower levels. "The authors express their gratitude to K. K. Andreyev for his substantial guidance, discussion and formulation of results." Orig. art. has: 5 figures.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 14Jun63 ENCL: 00

SUB CODE: AR, CH NO REF SOV: 004 OTHER: 001

Card 2/2

I 17953-63 EPR/EPF(c) EWT(m)/BDS AFFTC/RPL Pe-4 Pr-4 S/2938/63/000/000/021/0[illegible]
ACCESSION NR: AT3006079

AUTHORS: Gorbunov, V. V.; Svetlov, B. S.

TITLE: The role of condensed products during decomposition of nitroglycerine

SOURCE: Teoriya vzry*vchaty*kh veshchestv, sbornik statey, 1963, 214-219

TOPIC TAGS: explosive , nitroglycerine, condensed products of explosion, nitroether, oxalic acid

ABSTRACT: Authors attempted to show the presence of condensed products and to evaluate their role during the decomposition of nitroglycerine. During the partial decomposition of nitroglycerine and after the removal of the volatile products, gas formation proceeded at a high rate. It decreased, however, with time. Its temperature coefficient is smaller than the temperature coefficient of gas formation during the decomposition of the pure nitroglycerine. The decomposition of the partly-decomposed nitroglycerine is qualitatively similar to the decomposition of this nitroether in the presence of oxalic acid. The thermal decomposition of partly-decomposed nitroglycerine proceeded as if it had non-volatile products in its composition. The decomposition rate constant is much

Card 1/2

L 17958-63
ACCESSION NR: AT3006079

larger than the rate constant of nitroglycerine itself. During the self-accelerating decomposition of nitroglycerine in the presence of decomposition products, the rate of the process is determined not only by the highly-volatile products, but, apparently, also by the formation of non-volatile intermediate decomposition products. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 14Jun63	ENCL: 00
SUB CODE: AR, CH	NO REF SOV: 007	OTHER: 000

Card 2/2

LAPTEV, A.P., kand.med.nauk; GORBUNOV, V.V., prepodavatel' fizicheskogo vospitaniya

"Brave Russian "lapta" [a ball game]. Zdorov'e 9 no.4:24 Ap'63. (MIRA 16:7)
(BALL GAMES)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000516110020-5"